Practice: 558 - Roof Runoff Structure

Scenario: #1 - Gutters and downspouts

Scenario Description:

A roof runoff structure, consisting of gutter(s), downspout(s) and splashguards. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface. Facilitates waste management and protects environment by minimizing clean water additions to waste systems and addresses water quality concerns.

Associated practices include Waste Storage Facility (313), Composting Facility (317), Heavy Use Area Protection (561), Watering Facility (614), Underground Outlet (620), Diversion (362), and any relevant irrigation practices.

Before Situation:

Applicable where: (1) a roof runoff management facility is included in an overall plan for an overall plan for a waste management system; (2) roof runoff needs to be diverted away from structures or contaminated areas; (3) there is a need to collect, control, and transport runoff from roofs to a stable outlet.

After Situation:

Gutters, downspouts and splashguards servicing the portion of the building roof that would otherwise drain into a waste management system or create erosion. Roof line of 180 ln.ft. serviced with gutter, downspouts, and appurtances.

Scenario Feature Measure: Linear Length of Roof to be Guttered

Scenario Unit: Linear Feet

Scenario Typical Size: 180

Scenario Cost: $1,028.05 **Scenario Cost/Unit:** $5.71

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Geotextile, woven	42	Woven Geotextile Fabric. Includes materials, equipment and labor	Square Yard	$2.25	6	$13.50
Labor						
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$19.21	4	$76.84
Materials						
Gutter, Aluminum, Small	1689	Aluminum gutter (4" to 6") in width with hangers. Materials only.	Foot	$2.86	180	$514.80
Downspout, Aluminum, Small	1700	Aluminum downspout (3" to 5") in width with hangers. Materials only.	Foot	$3.11	60	$186.60
Aggregate, Gravel, Graded	46	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	$40.06	1	$40.06
Mobilization						
Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	$178.75	1	$178.75
Aggregate, Shipping, Cubic Yard-mile	2360	Mobilization of aggregate material beyond 20 miles of local delivery from quarry to construction site. Cubic Yard-mile (Cubic Yard * miles of haul).	Cubic Yard-Mile	$0.35	50	$17.50

Practice: 558 - Roof Runoff Structure

Scenario: #2 - Gutters, downspouts and fascia boards

Scenario Description:

A roof runoff structure, consisting of gutter(s) and downspout(s) only. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface. Facilitates waste management and protects environment by minimizing clean water additions to waste systems and addresses water quality concerns.

Associated practices include Waste Storage Facility (313), Composting Facility (317), Heavy Use Area Protection (561), Watering Facility (614), Underground Outlet (620), Diversion (362), and any relevant irrigation practices.

Before Situation:

Applicable where: (1) a roof runoff management facility is included in an overall plan for an overall plan for a waste management system; (2) roof runoff needs to be diverted away from structures or contaminated areas; (3) there is a need to collect, control, and transport runoff from roofs to a stable outlet.

After Situation:

A gutter and downspout servicing the portion of the building roof that would otherwise drain into a waste management system or create erosion. Roof line of 180 ln.ft. serviced with gutter, downspouts, and appurtances.

Scenario Feature Measure: Linear Length of Roof to be Guttered

Scenario Unit: Linear Feet

Scenario Typical Size: 180

Scenario Cost: $1,577.13 **Scenario Cost/Unit:** $8.76

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Geotextile, woven	42	Woven Geotextile Fabric. Includes materials, equipment and labor	Square Yard	$2.25	6	$13.50
Labor						
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$19.21	4	$76.84
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	$27.01	8	$216.08
Materials						
Aggregate, Gravel, Graded	46	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	$40.06	1	$40.06
Dimension Lumber, untreated, rot resistant	1613	Untreated dimension lumber with nominal thickness equal or less than 2" milled from a rot resistant species such as cedar. Includes lumber and fasteners. Does not include labor.	Board Foot	$1.85	180	$333.00
Gutter, Aluminum, Small	1689	Aluminum gutter (4" to 6") in width with hangers. Materials only.	Foot	$2.86	180	$514.80
Downspout, Aluminum, Small	1700	Aluminum downspout (3" to 5") in width with hangers. Materials only.	Foot	$3.11	60	$186.60
Mobilization						
Aggregate, Shipping, Cubic Yard-mile	2360	Mobilization of aggregate material beyond 20 miles of local delivery from quarry to construction site. Cubic Yard-mile (Cubic Yard * miles of haul).	Cubic Yard-Mile	$0.35	50	$17.50
Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	$178.75	1	$178.75

Practice: 558 - Roof Runoff Structure

Scenario: #6 - Drip pad

Scenario Description:

A roof runoff structure, consisting of a pad filled with rock located at the drip line of a building. Used to provide a stable outlet to ground surface. Environmental/design considerations, for example – snow loads, or a building without proper structural support needed for gutters dictate the use of a trench drain. Facilitates waste management and protects the environment by minimizing clean water additions to waste systems and addresses water quality concerns.

Associated practices include Waste Storage Facility (313), Composting Facility (317), Heavy Use Area Protection (561), Underground Outlet (620), and Diversion (362).

Before Situation:

Applicable where: (1) a roof runoff management facility is included in an overall plan for an overall plan for a waste management system; (2) roof runoff needs to be diverted away from structures or contaminated areas; (3) there is a need to collect, control, and transport runoff from roofs to a stable outlet.

After Situation:

A 6" deep by 2' wide by 200 long deep rock filled splash pad, servicing the portion of the building roof that creates erosion and addresses a water quality resource concern.

Scenario Feature Measure: Linear length of roof to be drained

Scenario Unit: Linear Foot

Scenario Typical Size: 200

Scenario Cost: $787.12 **Scenario Cost/Unit:** $3.94

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Excavation, Common Earth, side cast, small equipment	48	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	$1.96	7.4	$14.50
Labor						
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$19.21	2	$38.42
Materials						
Aggregate, Gravel, Graded	46	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	$40.06	7.4	$296.44
Mobilization						
Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	$178.75	1	$178.75
Aggregate, Shipping, Cubic Yard-mile	2360	Mobilization of aggregate material beyond 20 miles of local delivery from quarry to construction site. Cubic Yard-mile (Cubic Yard * miles of haul).	Cubic Yard-Mile	$0.35	740	$259.00

Practice: 558 - Roof Runoff Structure

Scenario: #7 - Roof runoff storage tank

Scenario Description:

A roof runoff storage tank is added to an existing structure with gutters and downspouts that meet our 558 Roof Runoff Structure standard. Used to keep roof clean water runoff uncontaminated, provide storaage for on-farm use. Must be coupled with a stable outlet for any excess to ground surface in a way that avoids erosion (typicallyc ombined with 620 Underground Outlet). Facilitates water management and protects environment by minimizing clean water additions to waste systems and addresses water quality concerns.

Associated practices include Waste Storage Facility (313), Composting Facility (317), Heavy Use Area Protection (561), Watering Facility (614), Underground Outlet (620), Diversion (362), and any relevant irrigation practices.

Before Situation:

Applicable where: (1) a roof runoff management structre is already in place/is included in an overall plan for waste management; (2) roof runoff needs to be stored and used with any possible overflow diverted away from structures or contaminated areas; (3) there is a need to collect, control, and transport runoff from roofs to a stable outlet.

After Situation:

Storage tank added to existing gutters and downspouts that meet NRCS stanbdards and are servicing the portion of the building roof that would otherwise drain into a waste management system or create erosion. Roof line of 180 ln.ft. serviced with a water storage tank added. A 1,500 gallon tank is installed for storage and use of roof runoff.

Scenario Feature Measure: Gallons of storage capacity

Scenario Unit: Gallon

Scenario Typical Size: 1,500

Scenario Cost: $1,971.83 **Scenario Cost/Unit:** $1.31

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Geotextile, woven	42	Woven Geotextile Fabric. Includes materials, equipment and labor	Square Yard	$2.25	9	$20.25
Excavation, Common Earth, side cast, small equipment	48	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	$1.96	2	$3.92
Labor						
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	$27.01	1	$27.01
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$19.21	3	$57.63
Materials						
Aggregate, Gravel, Graded	46	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	$40.06	2	$80.12
Pipe, PVC, 6", SCH 40	980	Materials: - 6" - PVC - SCH 40 - ASTM D1785	Foot	$6.57	95	$624.15
Tank, Poly Enclosed Storage, >1,000	1075	Water storage tanks. Includes materials and shipping only.	Gallon	$0.63	1500	$945.00
Mobilization						
Aggregate, Shipping, Cubic Yard-mile	2360	Mobilization of aggregate material beyond 20 miles of local delivery from quarry to construction site. Cubic Yard-mile (Cubic Yard * miles of haul).	Cubic Yard-Mile	$0.35	100	$35.00
Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	$178.75	1	$178.75